

MEMORANDUM FOR: Geometrics GPS, Inc.

FROM: Charles W. Challstrom
Director, National Geodetic Survey

SUBJECT: **UPDATED PROJECT INSTRUCTIONS:**
Watauga County Height Modernization Survey

This document contains specific instructions to accomplish the following height modernization survey:

1. Project Name: WATAUGA COUNTY HEIGHT MOD, 2002
2. Geographic Limits: Watauga County, North Carolina
3. Project ID Number: GPS-1691
- 4a. Size of Project: 812 square kilometers
- 4b. Number of Points: approximately 43 stations
- 4c. LIDAR Project Area: None.
- 4d. LIDAR Parameters: None.
5. Points of Contact (e-mail both):

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This Height Modernization project shall include: reconnaissance, mark recovery, mark setting, GPS observations, data processing, data analysis, data adjustment, data submittal in specified formats, and preparing reports.

Detailed instructions are provided in [Scope of Work: Height Modernization and LIDAR Surveys](#) (SOW) v9, dated April 24, 2002. Deviations from this SOW include the following:

- ▶ The 30-minute observations are extended to 45 minutes.
- ▶ Use CD-ROMs instead of Zip disks for submitting data.
- ▶ Use ITRF2000 coordinates for all vector processing. If ITRF2000 coordinates are not available for the reference stations, transform coordinates from NAD83 with NGS program HTDP.
- ▶ No CTCORS stations will be needed or required.
- ▶ All tripods shall be tested for stability, plumb alignment (straightness of center pole), and height verification at

the beginning and end of the project. All tripods shall be examined for stability with each use. Ensure that hinges, clamps, and feet are secure and in good repair. Also, check the position of the bubble in the circular vial.

- ▶ Use the U.S. Survey foot (3.28083333333 feet = 1 meter) for any length conversions.
- ▶ The Contractor shall submit to NGS the initial minimally constrained adjustment before continuing with additional data processing. NGS will review and comment on this adjustment as soon as possible, normally within 5 working days.
- ▶ **The Contractor shall have a registered North Carolina Surveyor oversee all work done in this state. Please see <http://www.ncbels.org/> for further information.**

Enclosed are the government-supplied materials listed in the SOW, Section 3 plus a list and map of existing stations taken from the NGS Database on 5/1/02 in ArcExplorer Format.